EXCISION OF THE WHOLE LEFT LOBE OF THE LIVER FOR SARCOMA.

BY GASTON TORRANCE, M.D.,
OF BIRMINGHAM, ALA.,
Surgeon to St. Vincent's and the Hillman Hospitals.

MRS. H. G., age 50, of German parentage, consulted me first on August 16, 1907, on account of a large tumor of the upper abdomen; giving the following history: Her mother died at the age of 65 of "dropsy," family history otherwise negative. Her general health has always been good. Menstruation began at 15 years of age and was regular and normal until she was 20 when she had a fall, after this she menstruated every three weeks; she was married at the age of 24 and continued to have the same menstrual trouble. She has given birth to eighteen children and had five miscarriages, has had twins twice and triplets once; the first child was born one year after she was married and the youngest when she was 45 years old. Nine of the children are still living. Her last menstrual period occurred six weeks ago.

There is no history of syphilis. Her right eye was removed four or five years ago as the result of an injury received ten years previously. Both lobes of her thyroid are considerably enlarged, this was noticed soon after her marriage since which time there has been no marked increase in its size.

Heart and lungs appear to be normal; liver dulness begins at the upper border of the sixth rib and passes downward into the tumor dulness; splenic dulness not increased. Vaginal examination negative except for a slight laceration of the cervix and perineum.

In the abdomen is a mass which lies transversely with the centre of the tumor almost under the navel and apparently adherent to the tissues beneath. She first noticed a small mass in the left side about two years ago, it was freely movable and gave her no trouble; during the past year it has grown very rapidly and interferes with her digestion, probably by pressure; she does not have much discomfort from it now unless she strikes the abdomen. The tumor measures 21 x 13 cm., is firm and rather irregular in outline, the larger end lies towards the left side; it is quite movable and the manipulations do not seem to cause any pain. Blood examination; hemoglobin 80 per cent.; reds 3,712,000; whites 7,000; multinuclears 71 per cent.; mononuclears 23 per cent.; eosinophiles 3.5 per cent.; lymphocytes 2.5 per cent.

Exploration advised. Five days later she was admitted to the private wards at St. Vincent's Hospital. On admission her pulse and temperature were both normal; a specimen of urine was examined and reported negative.

She stated that she had not been able to retain any food in her stomach since she had consulted me five days before and as a consequence was very much exhausted.

The following morning under ether an incision was made through the left rectus beginning just below the border of the ribs and extending down below the umbilicus; the tumor was easily delivered and some strong adhesions to the stomach were found; these were dissected loose and the raw surface of the stomach closed with some fine silk.

After consulting with several members of the staff who happened to be present, I decided to excise the whole tumor; mattress sutures were introduced by means of a blunt pointed liver needle, heavy linen being selected for suture material; after tying off a portion of the liver an incision was made through this part and sutures introduced and tied on the cut surface which almost approximated the peritoneal covering of the liver and completely controlled the hemorrhage; this method of tying and cutting was continued until the whole lobe had been severed; some of the larger vessels spurted and were caught with a Kocher hemostat and a small full curved needle passed through the liver tissue so as to catch them when tied.

The excision part of the operation took about thirty minutes.

The wound was perfectly dry when I had finished and the patient did not lose an ounce of blood in all, not including slightly more than this which regurgitated from the excised portion, but as sutures were introduced in this portion too the hemorrhage was very slight.

The omentum was tucked in around the cut surfaces of the liver and the wound closed without drainage, as practiced by Prof. Garrè in the Breslau Klinik.

The patient's condition was not any worse at the end of the operation than when I began the excision.

Fig. 1.

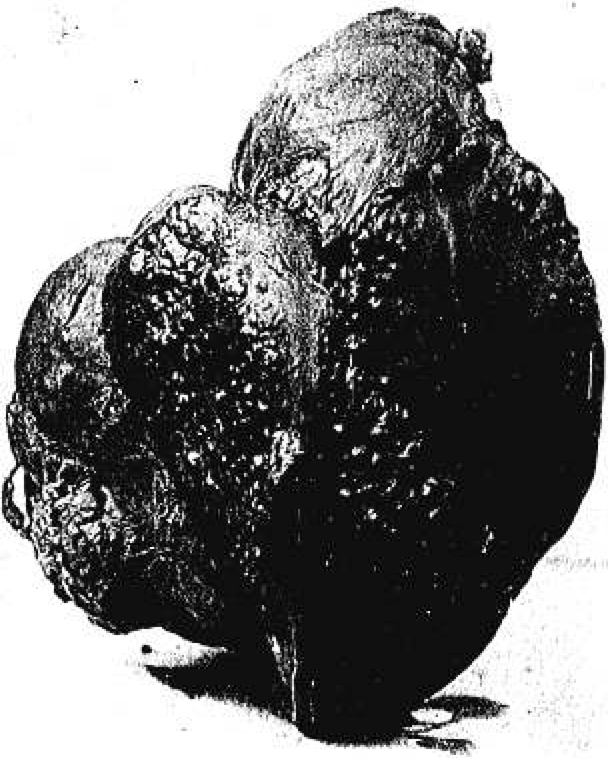
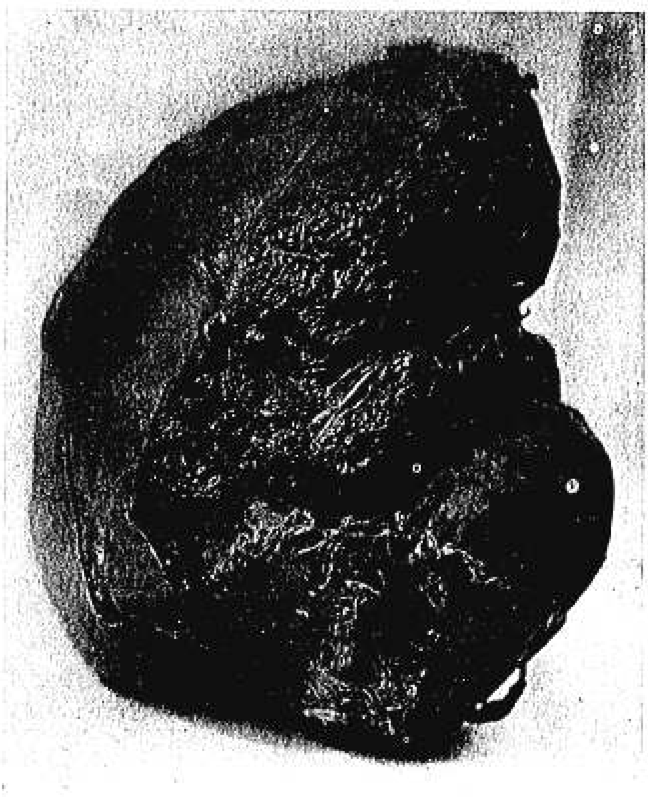


FIG. 2.



Salt solution was given by hypodermoclysis on the table and was continued by enema every three hours. Strychnin and digitalin were given by hypodermic. Her pulse was rapid and continued rapid, but was of fair volume until a few hours before death which occurred twenty-four hours after operation. She was stupid and was aroused with difficulty, perhaps partly due to morphine. The secretion of urine was small and was not much increased by the hypodermic administration of sparteine sulphate. There was a terminal temperature of about 107 F. Unfortunately no post-mortem was allowed.

The tumor weighed two pounds and nine ounces and measured 20 cm. across the upper surface and 43 cm. in circumference; the cut surface, incised from before backwards, measured 12 x 12½ cm. The upper surface showed a large area of thick fibrous tissue and at other places small nodules; the under surface showed a distinct mass which was very much softer and seemed to be cystic and when incised after being in formalin for about ten days, a thick, black, grumous material flowed out leaving a distinct cavity.

The photographs (Figs. 1 and 2) show the cut surface and the extreme left end of the liver.

Pathological report by Dr. C. E. Dowman:

Three blocks of tissue were taken for microscopic examination. They were hardened in 5 per cent. formalin, dehydrated in alcohol and ether and imbedded in celloidin.

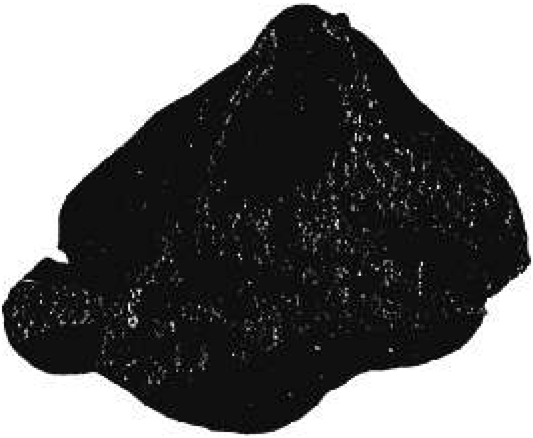
Block No. 1 was taken from that portion of the tumor which 'shaded off' into the liver substance. Sections stained with hæmotoxylin and eosin give the following microscopic picture; one-half of the section is composed of somewhat altered liver substance, the lobules being irregularly cut up by strands of fibrous tissue. This fibrous tissue is so extensive in places—as we near the tumor portion of the section—that only here and there are present scattered columns of liver cells, the cells of these columns being considerably compressed. Scattered throughout this portion of the section between the columns of liver cells are numerous deep brown pigment cells. The formation of fibrous tissue increases as we approach the other half of the section. Here we have the picture of broad fibrous tissue bands which form an irregular mesh-work around large alveoli filled with more or less pigmented palely staining spindle and round cells and large brown-black pigment cells. In most of the alveoli the spindle cells predominate, especially around the edges of the alveoli where they are in close relationship with the connective tissue bands. In other alveoli the formation of the pigment cells has so advanced that the other forms of cells, if they be present, are entirely obscured.

Block No. 2 was taken from a portion of the tumor where the pigmentation was not so pronounced as in most portions. The tissue here consisted macroscopically of very soft, greyish substance which suggested the predominance of cellular elements rather than of fibrous tissue bands. Celloidin sections stained with hæmatoxylin and eosin give the following microscopic picture; the alveolar arrangement described in block 1 is not present. The fibrous tissue bands are also less marked. The field consists chiefly of more or less connected tortuous collections of small and large round cells and spindle cells, whose nuclei take a deep hæmatoxylin stain. Between these tortuous collections of cells are faint strands of connective tissue with here and there scattered groupings of deep brown pigment cells. In one portion of the section the cellular elements have taken more of the eosin and very little of the hæmatoxylin stain, the picture suggesting a necrotic condition. Here the pigment cells are in great numbers. This condition increases as one approaches the edge of the section where the picture consists essentially of large and small, deep brown pigment cells and faintly staining spindle cells.

Block No. 3 was taken through the marked fibrous tissue thickening on the surface of the tumor and extending into the underlying deeply pigmented tumor substance. Sections stained with hæmatoxylin and eosin show microscopically, the thickened outer capsule of the tumor to consist of dense fibrous and elastic tissue. From this capsule, extending downward into the main portion of the tumor, are wide fibrous tissue bands, in the network of which are large irregularly formed alveoli filled with spindle, round and pigment cells as described in block 1. Here the spindle and pigment cells predominate, the former being of all types from the short spindle to the long fibrous cell form, while the latter are brown-black round cells, of various sizes and grouped in great density between the various collections of spindle cells.

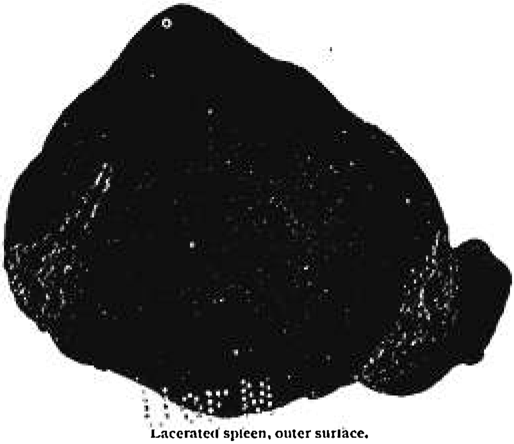
Diagnosis.—Melanotic sarcoma, probably metastatic.

Fig. 1.



Lacerated spleen, inner surface.

Fig. 2.



Lacerated spleen, outer surface.